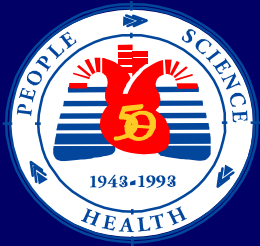


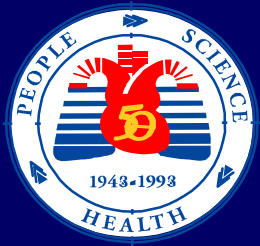
Primary Prevention

- Primary prevention offers an opportunity to interrupt the costly cycle of managing hypertension.
- A populationwide approach can reduce morbidity and mortality.
- Most patients with hypertension do not sufficiently change their lifestyle or adhere to drug therapy enough to achieve control.
- Blood pressure rise with age is not inevitable.
- Lifestyle modifications have been shown to lower blood pressure.



Goal of Hypertension Prevention and Management

- To reduce morbidity and mortality by the least intrusive means possible. This may be accomplished by
 - Achieving and maintaining SBP < 140 mm Hg and DBP < 90 mm Hg.
 - Controlling other cardiovascular risk factors.



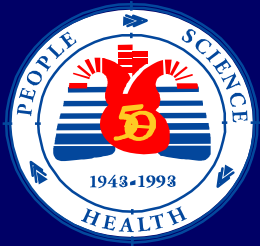
Lifestyle Modifications

For Prevention and Management

- Lose weight if overweight
- Limit alcohol intake
- Increase aerobic physical activity
- Reduce sodium intake
- Maintain adequate intake of potassium

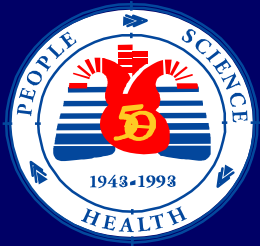
For Overall and Cardiovascular Health

- Maintain adequate intake of calcium and magnesium
- Stop smoking
- Reduce dietary saturated fat and cholesterol



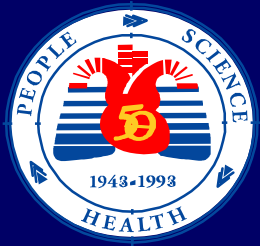
Pharmacologic Treatment

- Decreases cardiovascular morbidity and mortality based on randomized controlled trials.
- Protects against stroke, coronary events, heart failure, progression of renal disease, progression to more severe hypertension, and all-cause mortality.



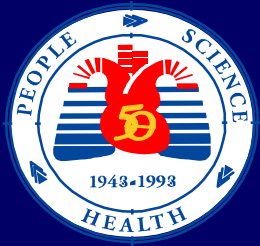
Special Considerations in Selecting Drug Therapy

- Demographics
- Coexisting diseases and therapies
- Quality of life
- Physiological and biochemical measurements
- Drug interactions
- Economic considerations



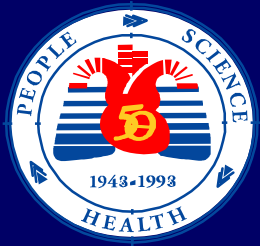
Drug Therapy

- A low dose of initial drug should be used, slowly titrating upward.
- Optimal formulation should provide 24-hour efficacy with once-daily dose with at least 50% of peak effect remaining at end of 24 hours.
- Combination therapies may provide additional efficacy with fewer adverse effects.



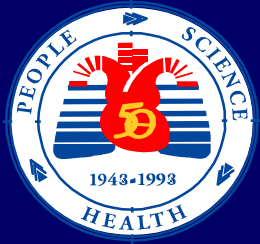
Classes of Antihypertensive Drugs

- ACE inhibitors
- Adrenergic inhibitors
- Angiotensin II receptor blockers
- Calcium antagonists
- Direct vasodilators
- Diuretics



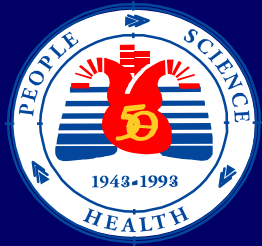
Combination Therapies

- β -adrenergic blockers and diuretics
- ACE inhibitors and diuretics
- Angiotensin II receptor antagonists and diuretics
- Calcium antagonists and ACE inhibitors
- Other combinations



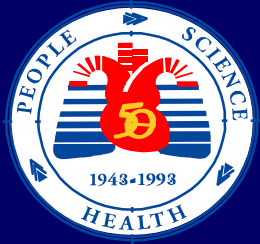
Followup

- Followup within 1 to 2 months after initiating therapy.
- Recognize that high-risk patients often require high dose or combination therapies and shorter intervals between changes in medications.
- Consider reasons for lack of responsiveness if blood pressure is uncontrolled after reaching full dose.
- Consider reducing dose and number of agents after 1 year at or below goal.



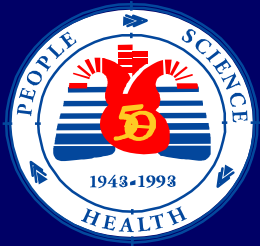
Causes for Inadequate Response to Drug Therapy

- Pseudoresistance
- Nonadherence to therapy
- Volume overload
- Drug-related causes
- Associated conditions
- Identifiable causes of hypertension



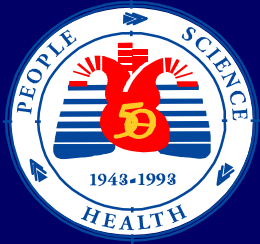
Guidelines for Improving Adherence to Therapy

- Be aware of signs of nonadherence.
- Establish goal of therapy.
- Encourage a positive attitude about achieving goals.
- Educate patients about the disease and therapy.
- Maintain contact with patients.
- Encourage lifestyle modifications.
- Keep care inexpensive and simple.



Guidelines for Improving Adherence to Therapy (continued)

- Integrate therapy into daily routine.
- Prescribe long-acting drugs.
- Adjust therapy to minimize adverse effects.
- Continue to add drugs systematically to meet goal.
- Consider using nurse case management.
- Utilize other health professionals.
- Try a new approach if current regime is inadequate.



Hypertensive Emergencies and Urgencies

- **Emergencies** require immediate blood pressure reduction to prevent or limit target organ damage.
- **Urgencies** benefit from reducing blood pressure within a few hours.
- Elevated blood pressure alone rarely requires emergency therapy.
- Fast-acting drugs are available.



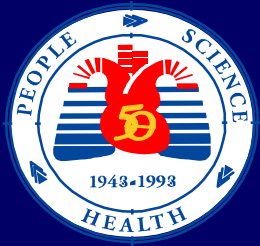
Drugs Available for Hypertensive Emergencies

Vasodilators

- Nitroprusside
- Nicardipine
- Fenoldopam
- Nitroglycerin
- Enalaprilat
- Hydralazine

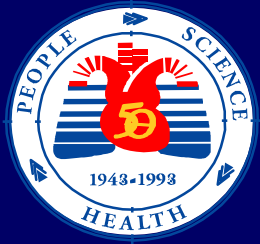
Adrenergic Inhibitors

- Labetalol
- Esmolol
- Phentolamine



Summary of Chapter 3

- Modifying lifestyles in populations can have a major protective effect against high blood pressure and cardiovascular disease.
- Lowering blood pressure decreases death from stroke, coronary events, and heart failure; slows progression of renal failure; prevents progression to more severe hypertension; and reduces all-cause mortality.
- A diuretic and/or a β -blocker should be chosen as initial therapy unless there are compelling or specific indications for another drug.



Summary of Chapter 3 (continued)

- Management strategies can improve adherence through the use of multidisciplinary teams.
- The reductions in cardiovascular events demonstrated in randomized controlled trials have important implications for managed care organizations.
- Management of hypertensive emergencies requires immediate action, whereas urgencies benefit from reducing blood pressure within a few hours.